

APPENDIX B

STATEMENT OF WORK
for the
Doe Run Resources Corporation

**THE REMEDIAL DESIGN/REMEDIAL ACTION
CONSENT DECREE FOR OPERABLE UNIT 01**

**ORONOGO-DUENWEG MINING BELT SITE
JASPER COUNTY, MISSOURI**

May, 2008

**STATEMENT OF WORK FOR
REMEDIAL DESIGN AND REMEDIAL ACTION
OPERABLE UNIT 01 OF THE
ORONOGO-DUENWEG MINING BELT SITE
JASPER COUNTY, MISSOURI**

This Statement of Work (SOW) is for the purpose of implementing the selected Remedial Design and the Remedial Action (RD/RA) for the Parcels of land identified in Table 1 of this SOW, and their Associated Tributaries as defined in the accompanying Consent Decree. These Parcels are located within the Oronogo-Duenweg Mining Belt Site (Site) located in Jasper and Newton Counties, Missouri. The required remedy for these Parcels is set forth in the Record of Decision (ROD) for Operable Unit 01 for the Site issued by the U.S. Environmental Protection Agency Region VII (EPA) on September 30, 2004. This SOW is incorporated into and is made a part of the Consent Decree (CD) entered into by the Settling Defendant and the United States of America for the RD/RA of these Parcels. Terms used in this SOW are defined in the CD. The Settling Defendant shall follow the ROD, the CD, the approved RD, and pertinent reference documents listed in Section VII of this SOW and subsequent revisions thereto, upon notification by the EPA to Settling Defendant of such revision, in submitting deliverables for and implementing the RA for the Parcels identified in Table 1.

1.0 INTRODUCTION AND BACKGROUND

The Site is located in the Missouri portion of the Tri-State Mining District. This district was one of the largest zinc-lead mining areas in the world and provided nearly continuous metals production from the 1850s until 1970. Mining and milling operations in the Jasper County portion of the district generated about 150 million tons of wastes. Additionally, at least 17 smelters operated within the County, mostly in the Joplin area. Because of these wastes and associated heavy metals contamination, in 1990 EPA placed the Site on the National Priorities List (NPL). Investigations of various contaminated media were initiated in 1991 by EPA and a group of potentially responsible parties. EPA divided the Site into five operable units (OUs), based on media, for investigation and remediation. These OUs are: OU1- Mine and Mill Waste, OU2-Smelter Affected Residential Yards, OU3-Mining Affected Residential Yards, OU4-Groundwater, and OU5-Spring River Basin. This SOW relates only to remedial work to be conducted for OU1. Remedial actions previously selected for OU2, OU3, and OU4 are complete and remedial investigations are currently on-going for OU5.

1.1 Selected Remedy

The ROD for OU1 specifies the remedial actions to address the Source Material and Affected Media located on the Site. The following items are those components of the selected remedy for OU1 that will be addressed at the Parcels and Associated Tributaries:

- Excavation and removal, consolidation for subsequent use, or capping of Source Material, contaminated soils and selected stream sediments exceeding Remedial Action Levels defined in Section 1.3 of this SOW.

- Subaqueous disposal of excavated Source Material and sediments in mine pits or subsidences.
- Recontouring and revegetating excavated areas.
- Plugging of selected mine shafts and surface water diversion from mine openings.
- A monitoring program for assessing the effect of cleanup on Site streams.
- Institutional controls to protect the remedy and regulate future development.

Continuation of the Health Education Program established under OU2 and OU3 is the remaining component of the selected remedy for OU1. This SOW does not include work related to the Health Education Program.

1.2 Remedial Action Objectives

The media-specific remedial action objectives (RAOs) were developed in the Feasibility Study to address Site risks. RAOs were developed for Source Material, sediment, surface water, and ground water. These RAOs are presented below.

1.2.1 Source Material

The Source Material RAO is designed to address the ecological risks associated with exposure to contaminants of concern (COCs) in mill wastes and the affected soils surrounding the wastes. Terrestrial vertebrates, specifically vermivores, whose diet consists of earthworms and other soil-dwelling invertebrates, are identified as the receptors of concern. Exposure routes in suitable habitat for vermivores consist of ingestions of earthworms and other invertebrates in Source Materials and affected media with whole-body concentrations greater than 41 mg/kg cadmium, 804 mg/kg lead, or 6,424 mg/kg zinc. Based on this exposure scenario, the Source Material RAO is as follows:

- Mitigate risks to terrestrial vermivores from exposure to COCs from mine, mill, and smelter wastes within the Site, such that the calculated toxicity quotients or hazards indexes are less than or equal to 1.0.

1.2.2 Sediment

Sediments of concern in the Site consist of materials eroded from source areas to water bodies – Class P streams (as defined under Missouri’s water quality standards program) and their tributaries. The exposure pathway of concern for the sediment RAO is the movement and redistribution of source materials that could result in exposure of aquatic biota to elevated COC concentrations. The COCs for sediments are cadmium, lead and zinc. The sediment RAO for OU1 is as follows:

- Mitigate risks to aquatic biota in Class P streams and their tributaries exceeding Federal Aquatic Life Criteria (ALC”) for the COCs by controlling the transport of mine, mill and smelter wastes from source areas to waters of the state.

1.2.3 Surface Water

Two RAOs have been developed for surface water that address two different pathways of exposure to aquatic biota. The first exposure pathway of concern is the transport of COCs to Class P streams and their tributaries resulting from seepage and runoff from source materials. The second exposure pathway is the transport of COCs to Class P streams and their tributaries resulting from mine pit and pond discharges. The criteria for Class P streams and their tributaries are the Federal ALC, as calculated based on the hardness observed in the individual surface water bodies. The RAOs for OU1 surface water are as follows:

- Mitigate exposure of aquatic biota to COCs released and transported from mine and mill wastes where surface water applicable or relevant and appropriate requirements (ARARs) are exceeded in Class P streams and in tributaries.
- Mitigate exposure of aquatic biota to COCs released and transported from Site mine-related pits and ponds where surface water ARARs are exceeded in Class P streams and in tributaries.

1.2.4 Groundwater

The groundwater RAO addresses exposure of aquatic biota to COCs in Class P streams that receive discharge from flowing mine openings (e.g. mine shafts, vents). The contaminant criteria are Federal ALC. The COCs for OU1 groundwater are cadmium, lead and zinc. The RAO for OU1 groundwater is as follows:

- Mitigate exposure of aquatic biota to COCs in releases of groundwater from flowing mine shafts of the Site where surface water ARARs are exceeded in Class P streams and in tributaries.

1.3 Remedial Action Levels and Performance Standards

1.3.1 Soil and Source Material Cleanup Levels

As detailed in the ROD, the action levels for source materials and contaminated soils are 400 ppm lead, 40 ppm cadmium, and 6,400 ppm zinc.

1.3.2 Surface Water Cleanup Levels

The cleanup criteria for Class P streams and their tributaries are the Federal water quality standards (WQSs), as calculated based on the hardness observed in the individual surface water bodies. The objective of the remedy is to reduce the metals loading to the Class P streams to such a degree that the Federal WQSs will be met throughout the Site.

1.3.3 Sediment Removal Criteria

Numeric action levels for tributary sediments and delta deposits for protection of the aquatic environment were established in the ROD. The numeric action levels for cleanup of the intermittent tributary sediments are 2 ppm cadmium, 70 ppm lead, and 250 ppm zinc. These concentrations were derived from the average concentration of background designated soil values and the average screening values for sediments in consensus-based Threshold Effects Criteria (TEC) for freshwater.

1.3.4 Eroding Source Material Criteria

Aquatic sediment criteria are generally much lower than the concentrations found in the Site Source Material. Any Source Material eroding into streams creates unacceptable risk to aquatic organisms. Therefore, action criteria for Source Material eroding into streams and tributaries, that will protect the aquatic environment, are based on the observation of the material by the RPM or his designee, in consultation with the State of Missouri. This performance standard is strictly visual, in that any Source Material eroding, or with high potential to erode to streams and their tributaries, will be addressed. This includes all Source Material in the intermittent tributaries draining to Class P streams.

2.0 SCOPE OF REMEDIAL DESIGN AND REMEDIAL ACTION

The Settling Defendant shall conduct an RD/RA on the Parcels of land and Associated Tributaries at the Site. The Parcels subject to a remedial action are specified in Table 1 and shown on Figure 1a, 1b, and 1c of this SOW. The RD/RA shall specifically address all Source Material and Affected Media exceeding the Remedial Action Levels located on, or emanating from, the Parcels listed on Table 1, including all mine and mill wastes and/or associated metals contamination, such as transition zone soils, emanating or spilling over from the Parcels onto adjacent lands.

The Settling Defendant shall prepare a Remedial Design/Remedial Action Work Plan (RD/RA Work Plan) which addresses all aspects of the design, construction, operation and maintenance, and performance monitoring of the remedial actions to be performed by the Settling Defendant. Once the RD/RA Work Plans are approved by EPA, the Settling Defendant shall sequentially complete the RD/RA for each Parcel defined in Table 1 of this SOW assigned to the Settling Defendant. By mutual agreement between EPA and the Settling Defendant, the Work on more than one Parcel may be completed concurrently. The order of completion of the sequential RD/RA shall be mutually agreed to by EPA and the Settling Defendant and shall be based on proximity of a Parcel to residential areas, the quantity of commercial chat remaining on the Parcel, RD/RA work being conducted by EPA and other relevant factors.

Associated Tributaries containing contaminated sediments as determined in accordance with the EPA-approved SAP (Section 3.2 herein) and resulting from the Settling Defendant's Parcels shall be remediated by the Settling Defendant contemporaneous with or immediately following the Parcel remediation.

The RD/RA shall consist of the tasks defined in the following Sections. All plans and submittals

are subject to EPA approval after review and comment by the State of Missouri.

3.0 REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN

The Settling Defendant shall prepare and submit to EPA for review and approval a RD/RA Work Plan which addresses all components and actions for the RD/RA for the Parcels and Associated Tributaries to be addressed under the Consent Decree. The RD/RA Work Plan shall also be submitted to the State of Missouri for review and comment. The RD/RA Work Plan shall document the responsibility, qualifications and authority of all organizations and key personnel performing the work under the Consent Decree. The RD/RA Work Plan shall also contain a schedule of the RD/RA activities.

The RD/RA Work Plan shall include at a minimum, a Design Criteria Report, Sampling and Analysis Plan, Quality Assurance Project Plan, Health and Safety Plan, Performance Standard Verification Plan, Construction Quality Assurance Plan, and Operation and Maintenance Plan. The requirements for these components are discussed below.

3.1 Design Criteria Report

The Design Criteria Report (DCR) shall present the general design assumptions and parameters that will be used to design the remedies for the Parcels and Associated Tributaries, criteria to be used to determine which Source Material, contaminated soils and sediments will be deposited in subsidence pits, mine pits and mine shafts, which Source Material and contaminated soils will be capped in place, the performance standards to be used for design and measures to be taken to ensure compliance with ARARs, and pertinent codes and other regulatory requirements.

3.2 Sampling and Analysis Plan/Quality Assurance Project Plan

The Sampling and Analysis Plan (SAP) shall present: 1) the overall approach that will be used to define the horizontal and vertical extent of Source Materials and Affected Media to be addressed by the remedial action, 2) equipment and procedures for field screening, 3) sample collection and custody procedures, 4) analytical methods for the analysis of samples collected for laboratory analysis and, 5) data quality objectives to be used as part of the investigation.

The Sampling Analysis Plan shall include a description of the procedure to be followed in determining the extent to which sediments in Associated Tributaries are subject to remediation, which procedure shall include, 1) sampling at suitable intervals downstream, beginning at the Settling Defendant's Parcels, to be the Class P and, 2) sampling at the mouth of the Class P stream as required by the ROD.

3.3 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) shall be prepared in accordance with Guidance for Quality Assurance Project Plans, EPA QA/G-5 and EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5 and, at a minimum, shall include: 1) discussion of quality assurance

objectives, 2) calibration procedures and frequencies, 3) internal quality control checks, 4) data reduction, validation and reporting procedures, 5) performance and system audits and 6) corrective actions and quality assurance reports.

3.4 Health and Safety Plan

The Health and Safety Plan (HASP) shall follow all applicable EPA guidance, Occupational Health and Safety Administration (OSHA) requirements as presented in 29 C.F.R. Sections 1910 and 1926, and applicable requirements under the National Oil and Hazardous Substances Pollution Contingency Plan presented in 40 C.F.R. Section 300.150.

3.5 Performance Standard Verification Plan

The Performance Standard Verification Plan shall present the performance measures to be used to verify that both short-term and long-term performance standards are being satisfied as part of the remedial action and monitoring to be conducted to verify compliance with these performance measures. Long-term performance standards are identified in Section 1.3 of this SOW. Any short-term performance standards will be identified in said Verification Plan.

3.6 Construction Quality Assurance Plan

The Construction Quality Assurance Plan (CQAP) shall present the quality assurance measures that will be used during the construction of the remedy to ensure that the completed remedy meets or exceeds all design criteria, plans and specification. The CQAP shall contain, at a minimum, the following elements:

- Responsibilities and authorities of all organizations and key personnel involved in the design and construction of RA.
- Qualifications of the Quality Assurance Official to demonstrate he possesses the training and experience necessary to fulfill his identified responsibilities.
- Protocols for sampling and testing used to monitor construction.
- Identification of proposed quality assurance sampling activities including the sample size, locations, frequency of testing, acceptance and rejection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation.
- Reporting requirements for CQA activities shall be described in detail in the CQAP. This shall include such items as daily summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. Provisions for the final storage of all records consistent with the requirements of the Consent Decree shall be presented in the CQAP.

3.7 Operation and Maintenance Plan

The Operation and Maintenance (O&M) Plan shall discuss the procedures that will be used to

verify the long-term effectiveness of the remedy and measures to be taken to maintain the various components of the remedy. The O&M Plan shall include the following elements:

- Description of O&M tasks and performance frequency.
- Description of potential operations problems and required maintenance.
- Description of routine inspections and testing.
- Description of and schedule for corrective actions that may be required.
- Description of the installation, maintenance and replacement of any required monitoring equipment.
- Description of O&M documentation and reporting mechanisms.

3.8 Institutional Controls Implementation Plan

The Institutional Control Implementation and Assurance Plan (ICIAP) shall describe the controls and restrictions that will be implemented by the Settling Defendant at its Parcels to protect the implemented remedies. The ICIAP shall list each control to be implemented, the agreements anticipated with landowners (if any), duration of controls, and a schedule and anticipated activities to monitoring and assure the continuation of controls.

The plan should include but is not be limited to the following elements of Institutional Controls (ICs):

- Statement of purpose/objective of any ICs selected by EPA for the Site.
- Description of the areas where the ICs will prevent unrestricted exposure and any disturbance of the wastes in capped disposal areas, biosolids treated areas or other areas of consolidated wastes, including any short-term ICs during construction and any ICs continuing beyond construction, and methodology for preparing final survey maps and legal descriptions for such areas after completion of construction.
- Draft documents of the ICs that will be used to prevent unrestricted exposure and any disturbances of the wastes.
- Draft schedule for establishing each IC.
- Determination of whether each IC will be of short term duration (such as interim ICs required to control areas where Source Materials may be consolidated for subsequent use pending completion of the RA) or long duration (such as permanent covenants that run with the land prohibiting or limiting development on disposal area caps).
- A demonstration approved by the EPA and the State (which approval is not to be unreasonably withheld) that any long-term ICs can reasonably be expected to prevent disturbance of the cap notwithstanding any prior liens and encumbrances, except those liens and encumbrances that have been approved by EPA, after consultation with the MDNR.
- Schedule for implementing the ICs.
- IC monitoring plan to ensure compliance with the ICIAP.

- Annual certification that ICs are maintained and remain in place, except that such certification may be waived on an annual basis by EPA upon request of the Settling Defendant.
- Any available mapping data.

4.0 REMEDIAL DESIGN PHASES

The Settling Defendant shall sequentially prepare remedial design documents to implement the remedial actions for the Parcels and Associated Tributaries subject to the Consent Decree in accordance with this SOW and the EPA approved RD/RA Work Plan. The remedial design documents shall be submitted to EPA and the State of Missouri in accordance with the scheduling requirements set forth in Section 7.0 of this SOW. The schedule for conducting the RA for a given Parcel and its Associated Tributaries shall be defined in the remedial design document for that Parcel. All plans and specifications shall be developed in accordance with the EPA Superfund Remedial Design and Remedial Action Guidance (OSWER Directive No-9355.0-4A) and shall demonstrate that the Remedial Action meets all objectives of the ROD, the CD, and this SOW. The Settling Defendant shall implement the remedy in accordance with the final RD/RA Work Plan. The Settling Defendant shall communicate with the EPA as necessary to discuss RD issues. Specific requirements of the RD are described below.

4.1 Preliminary Design Document

The Preliminary Design Document shall be prepared and submitted to EPA and the State of Missouri when the remedial design is approximately 30 percent complete. A Preliminary Design Document for a given Parcel and Associated Tributaries, or group of Parcels, shall be submitted to EPA and the State of Missouri at least 90 days prior to the due date for completing the Final Inspection Report on the previous Parcel and its Associated Tributaries. EPA and the Settling Defendant shall work cooperatively in the development, review and approval of design documents to allow remedial work to be completed at the Settling Defendant's Parcels subject to the Consent Decree on a more or less continual basis, weather permitting.

During the preliminary design phase, the Settling Defendants may undertake a field investigation study to compare the concentrations of the metals of concern in the tributary sediments with the background concentrations of these metals in the tributary basin soils. Additionally, the study may assess the tributary sediment concentrations in relation to the site wide sediment cleanup values under development by EPA for the Class P streams utilizing the recent toxicity studies conduct for EPA by the U.S. Geological Survey. The field investigation study results for sediment and background soil concentrations, in conjunction with any newly derived EPA site-wide cleanup numbers, if finalized, may be used during the preliminary design phase to develop tributary specific numeric cleanup goals provided post-ROD changes, if any, shall be made in accordance with the NCP and EPA guidance. Field sampling procedures for this study shall be included in the Sampling and Analysis Plan/Quality Assurance Project Plan, required in Section 3.2 of this SOW. The field investigation report including the results of the study and the

proposed tributary specific cleanup goals shall be submitted to EPA by the Settling Defendants for review and approval as part of the Preliminary Design.

The Preliminary Design Document shall present the findings and results of the pre-design studies and include, at a minimum, the following design components:

- Volume of tailings to be excavated and disposed of subaqueously.
- Volume and area of tailings to be consolidated and capped in-place.
- Volume of tailings to be consolidated for future sale by owner.
- Volume and area of soil exceeding remedial action levels.
- Location and capacity of voids to be used for subaqueous disposal.
- Location and description of surface water diversion structures.
- Location of overflowing shafts to be plugged and detailed plugging plans.
- Preliminary cap design.
- Design calculations and outline of design specifications.
- Access, easement and permit requirements.
- Tributary specific numeric sediment cleanup goals.
- Preliminary construction schedule.

After review by EPA and the State of Missouri, a design meeting shall be held at EPA's offices or the Site to discuss the preliminary design for a Parcel and to define any additional requirements to complete the design.

4.2 Pre-Final and Final Design Documents

The Pre-Final Design Document shall be prepared and submitted to EPA and the State of Missouri when the design is approximately 95 percent complete. The Pre-Final Design shall address all comments and recommendations received on the Preliminary Design Document and shall include final volume calculations, design specifications, final design drawings, and a project schedule (with major milestones) for implementation of the remedy at the subject Parcel.

After EPA's review of the Pre-Final Design, a Final Design shall be prepared and submitted to EPA and the State of Missouri, and shall address any and all EPA comments on the Pre-Final Design Document.

5.0 REMEDIAL ACTION CONTRUCTION

The Settling Defendant shall initiate the construction of the remedial action for a Parcel and its Associated Tributaries as detailed in the approved Final Design Document within 60 days of EPA's approval of the Final Design Document for each Parcel.

There shall be one pre-construction and two post-construction inspections conducted as part of remedial action construction at each Parcel and its Associated Tributaries. After completion of all required work associated with Parcel and its Associated Tributaries, a Construction Completion Report shall be submitted to EPA and the State of Missouri. The specific

requirements are discussed below.

5.1 Pre-Construction Inspection

Prior to initiating construction of a remedial action for a Parcel and its Associated Tributaries, a Pre-Construction Inspection meeting shall be held among the Settling Defendant, the Remedial Contractor, EPA and the State of Missouri to review construction plans, tour planned material and equipment storage areas, and to discuss any required Parcel-specific modifications of the RD/RA Work Plan. The findings of the inspection shall be documented in a Pre-Construction Inspection Report prepared by the Settling Defendant.

5.2 Pre-Final Inspection

Within 15 days of completion of the remedy for a Parcel and its Associated Tributaries, a Pre-Final Inspection shall be scheduled among the Settling Defendant, the Remedial Contractor for the Settling Defendant, EPA and the State of Missouri. The Pre-Final Inspection shall consist of an inspection of all components of the remedial action for a Parcel and its Associated Tributaries to verify that the remedy has been completed consistent with the approved design and to define any outstanding construction details that must be addressed before EPA can deem the remedy complete. The findings of the inspection, including any outstanding construction details and a plan and schedule to resolve the construction details, shall be documented in a Pre-Final Inspection Report prepared by the Settling Defendant, which shall be distributed to all participants of the inspection.

5.3 Final Inspection

If necessary, a Final Inspection of the remedy shall be scheduled among the Settling Defendant, the Remedial Contractor, EPA and the State of Missouri to inspect the addressed construction details which were identified during the Pre-Final Inspection. Within 15 days of completion of any work required to address the identified construction details, a Final Inspection shall be scheduled. The Settling Defendant shall notify the EPA and the State of Missouri of completion and schedule the Final Inspection. If no major construction details are identified with the remedy of a Parcel and its Associated Tributaries, EPA can elect to forego the Final Inspection. If conducted, the findings of the Final Inspection shall be documented in a Final Inspection Report prepared by the Settling Defendant and distributed to all participants of the inspection.

5.4 Construction Completion Report

Within 60 days of EPA's determination that a remedial action for a Parcel and its Associated Tributaries is complete, the Settling Defendant shall submit to EPA and the State of Missouri a Construction Completion Report for that Parcel and its Associated Tributaries. The Report shall detail the remedial activities completed and include as-built drawings signed and stamped by a registered professional engineer. The registered professional engineer or the remedial contractor's construction manager must certify that the remedy was constructed in accordance with the EPA-approved design document. The report shall also contain the following statement

signed by a responsible corporate official of the Settling Defendant or the Settling Defendant's Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

6.0 PERFORMANCE MONITORING AND OPERATION AND MAINTENANCE

Performance monitoring shall be conducted to in accordance with the Performance Standard Verification Plan, required in Section 3.5 of this SOW to ensure that all Performance Standards are met.

Upon completion of the remedial action at each Parcel, the Settling Defendant shall implement the long term Operation and Maintenance (O&M) in accordance with the approved O&M Plan required in Section 3.7 of this SOW.

7.0 MAJOR DELIVERABLES AND SCHEDULE

The RD/RA will be completed by the Settling Defendant in a sequential manner for the Parcels listed on Table 1 of this SOW and their Associated Tributaries. Each Parcel and its Associated Tributaries, or where appropriate several Parcels grouped together, will have a separate RD and subsequent RA. However, the RD/RA Work Plan will be prepared to cover all RD/RA work conducted at the Site by the Settling Defendant. After EPA approval of the RD/RA Work Plan, the Settling Defendant shall conduct the RD/RA for the initial Parcel. Upon EPA approval of the Final Design Document for its initial Parcel, the Settling Defendant shall initiate the RA at that Parcel.

The Preliminary Design Document for a subsequent Parcel shall be initiated no less than 90 days prior to the due date for completing the Final Inspection Report for the Parcel under remedial action. The Settling Defendant shall continue this process through the Final Inspection Report for all Parcels.

The Preliminary Design for the initial and all subsequent Parcels shall be submitted to EPA and the State of Missouri for review and approval. After the RD/RA Work Plan, each task and deliverable will be required for each Parcel and its Associated Tributaries identified on Table 1 of this SOW. The design and implementation phasing of this SOW is sequential and overlapping. At any one time a number of Parcels may be undergoing design activities, while others may be undergoing cleanup activities. A summary of the project tasks and deliverables and their due dates is presented in the SOW Schedule below. For each required deliverable, the Settling Defendant shall submit two copies to EPA and two copies to the State of Missouri for

review and comment.

<u>Task /Deliverable</u>	<u>Due Date</u>
RD/RA Work Plan	Within 30 days after EPA's issuance of an authorization to proceed pursuant to Paragraph 9 of the CD
Preliminary Design Document	For the initial Parcel and Associated Tributaries, within 60 days of EPA approval of the RD/RA Work Plan Preliminary Design Documents for subsequent Parcels to be addressed by the Settling Defendant shall be submitted to EPA and the State of Missouri at no later than 90 days prior to completing the Final Inspection Report on the previous Parcel
Pre-Final Design Document	Within 45 days after receipt of EPA's comments on the Preliminary Design for a given Parcel and Associated Tributaries
Final Design Document	Within 15 days after receipt of EPA's comments on the Pre-Final Design for a given Parcel and Associated Tributaries
Pre-Construction Inspection	Prior to the initiation of the RA on a given Parcel and Associated Tributaries
Initiate Remedial Action	Within 30 days after EPA's approval of the Final Design for a given Parcel and Associated Tributaries
Completion of Remedial Action	In accordance with the project schedule in the EPA approved Final Design for a given Parcel and Associated Tributaries
Pre-Final Inspection	Scheduled within 15 days after completion of the construction of the remedy for a given Parcel and Associated Tributaries
Pre-Final Inspection Report	Within 30 days after completion of Pre-Final Inspection on a given Parcel and Associated Tributaries
Final Inspection	Within 15 days after completion of work identified in Pre-Final Inspection Report on a given Parcel and Associated Tributaries
Final Inspection Report	Within 30 days after completion of work identified in the

Final Inspection for a given Parcel and Associated
Tributaries

Construction Completion Report

Within 60 days of EPA's determination of completion of the
construction at a given Parcel and Associated Tributaries

Table 1
Parcels and Associated Tributaries for Remedial Design/Remedial Action

Doe Run Resources Corporation Parcels

Carl Junction Area

Isherwood Parcel:	S½ NW¼ Sec. 12, T28N, R34W
McBee Parcel:	S½ SE¼ SE¼ Sec. 2, T28N, R34W
Martin Parcel:	N½ NE¼ NE¼ Sec. 11, T28N, R34W
McKee Parcel:	NW¼ NE¼ Sec. 11, T28N, R34W

Joplin Area

Jasper Mine Parcel:	NW¼ SE¼, S½ SE¼ Sec. 6, NE¼ NE¼ Sec. 7, T27N, R33W
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Snapp

Snapp Mine Parcel:	SE¼ Sec. 23, T29N, R33W
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All mine and mill wastes and/or associated metals contamination, such as transition zone soils, emanating or spilling over from these parcels onto adjacent lands shall also be include in any remedial design and remedial action activities.

Associated Tributaries are defined in the Consent Decree and shown on the attached Figures.

REFERENCE DOCUMENTS

The National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300.

“EPA Superfund Remedial Design and Remedial Action Guidance,” Interim Final, US EPA, Office of Solid Waste and Emergency Response, OSWER Directive 9355.0-4A, June 1986.

“Guidance for the Data Quality Objectives Process, EPA QA/G-4,” US EPA, Office of Environmental Information, EPA/600/R-96/055, August 2000.

“Guidance for Quality Assurance Project Plans, EPA QA/G-5,” US EPA, Office of Research and Development, EPA/240/R-02/009, December 2002.

“EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5,” Interim Final, US EPA, Quality Assurance Division, November 1999.

“Test Methods for Evaluating Solid Wastes,” US EPA, Office of Solid Waste and Emergency Response, SW-846, Third Edition, Volumes IA, IB, IC and II, November 1986 (including Final Update I, July 1992; Final Update II, September 1994).

“CERCLA Compliance with Other Laws Manual,” Draft Guidance, US EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9234.1-01, EPA/540/G-89/006, August 1988.

“CERCLA Compliance with Other Laws Manual, Part II,” Interim Final, US EPA, Office of Emergency and Remedial Response, OSWER Directive No. 9234.1-02, EPA/540/G-89/009, August 1989.

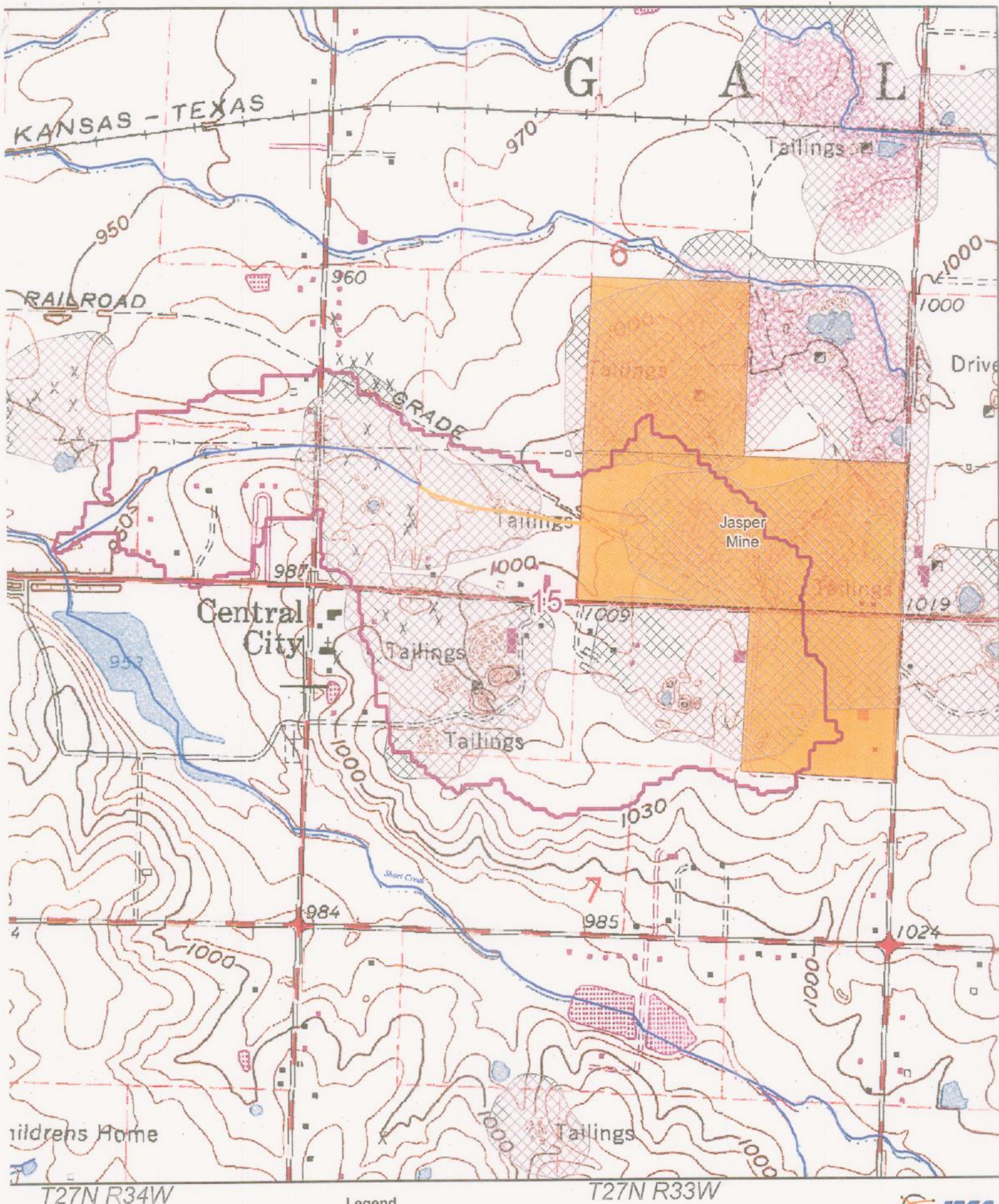
“Overview of the Off-Site Rule for OSCs and RPMs,” US EPA, Office of Solid Waste and Emergency Response, EPA Publication No. 9834.11FS, September 1993.

“Health and Safety Roles and Responsibilities at Remedial Sites,” US EPA, Office of Solid Waste and Emergency Response, EPA Publication No. 9285.1-02, July 1991.

OSHA Regulations in 29 C.F.R. Sections 1910.120 (Federal Register 45654, December 19, 1986).

Figure 1a, 1b, 1c

Location of Doe Run Parcels and Affected Tributaries



Jasper County Mining
Doe Run - Jasper Mine

Figure 1a

Legend

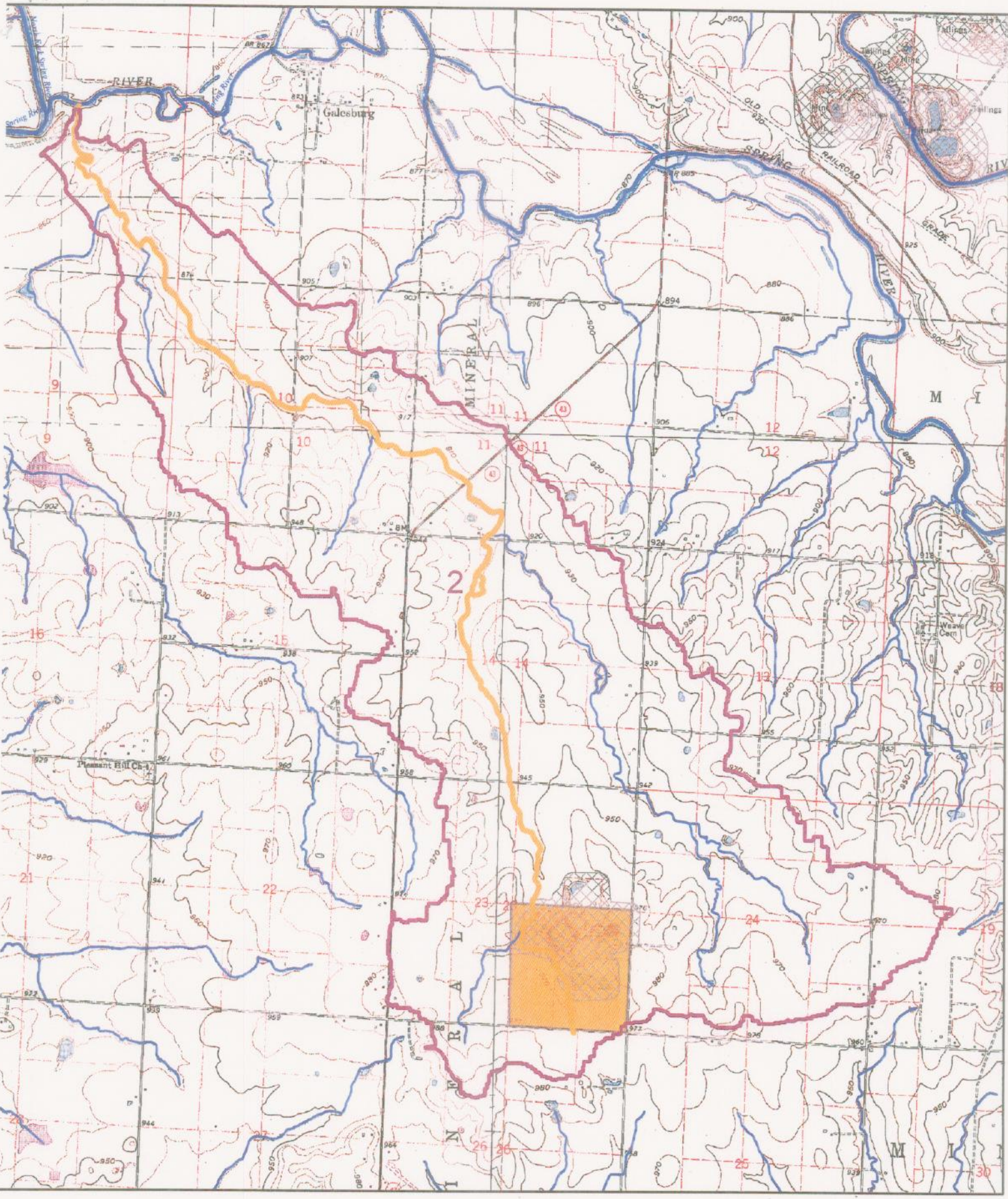
- Watershed Boundary
- Waste 200 ft buffer
- Doe Run
- Doe Run
- <all other values>

0 0.125 0.25 Miles

Data Source:
Streams: 1:24k National Hydrography Dataset
DRG: USGS Standard Series Topographic Map
Leases:
B&V PRP Map 1996
Leases based on PRP 104e responses
Waste buffer of 200'

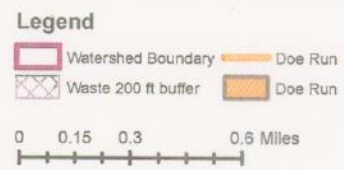


SF08-002_2 JMB 8/13/08
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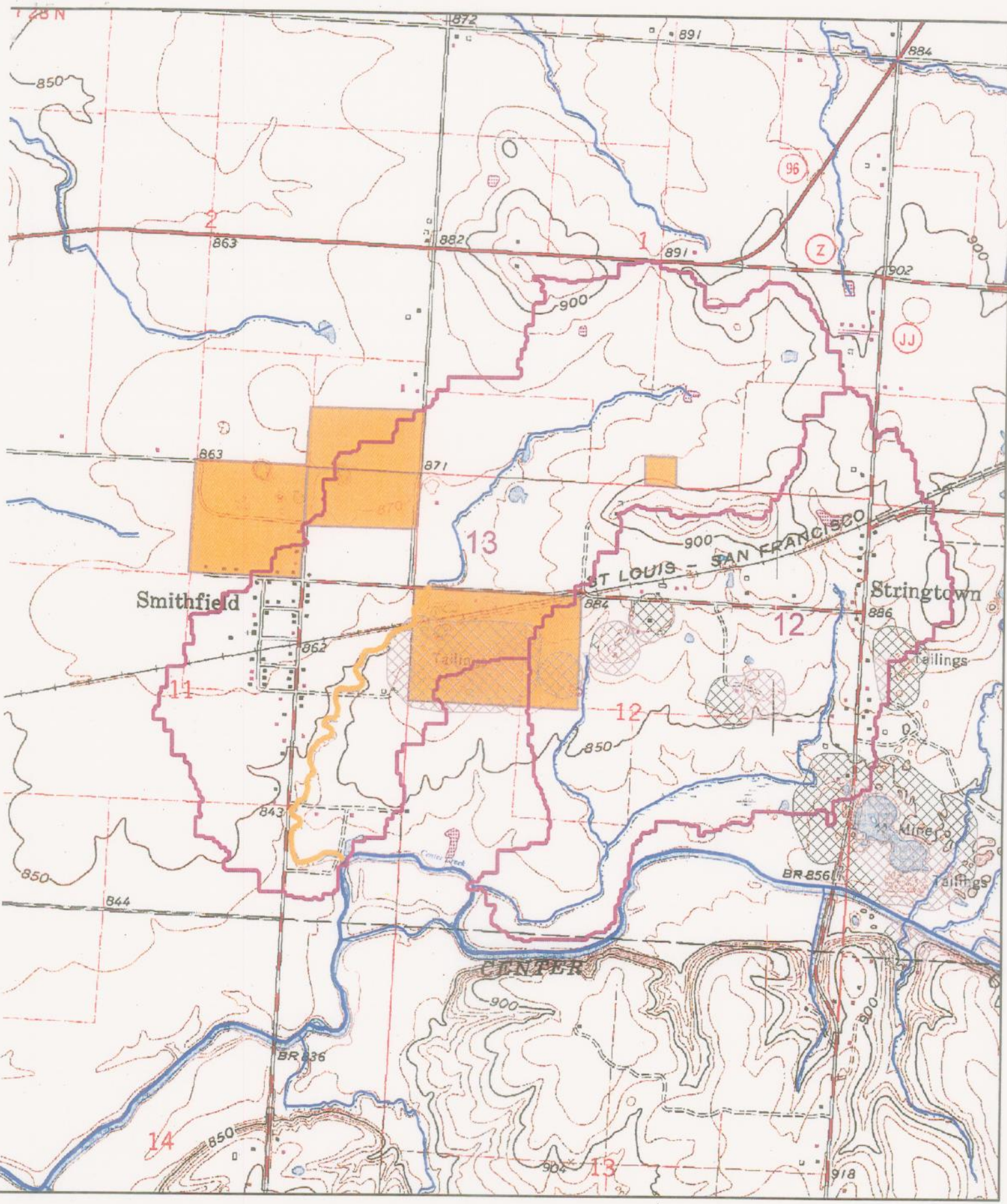


Jasper County Mining
Doe Run - Snapp Lease

Figure 1b



Data Source:
Streams: 1:24k National Hydrography Dataset
DRG: USGS Standard Series Topographic Map
Leases:
B&V PRP Map 1996
Leases based on PRP 104e responses
Waste buffer of 200'



Jasper County Mining
Doe Run

Figure 1c

Legend

Watershed Boundary	Doe Run
Waste 200 ft buffer	Doe Run

0 0.1 0.2 0.4 Miles

Data Source:
Streams: 1:24k National Hydrography Dataset
DRG: USGS Standard Series Topographic Map
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JMA
Information Technology

EPA
Region 7
ENSV Division

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